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10/780,557	02/19/2004	Maged E. Beshai	92644-22	1710

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EXAMINER	
LEE, ANDREW CHUNG CHEUNG	
ART UNIT	PAPER NUMBER
2419	

MAIL DATE	DELIVERY MODE
11/28/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/780,557	BESHAI, MAGED E.	
	Examiner	Art Unit	
	Andrew C. Lee	2419	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *18 July 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-11,13-22,24-28 and 32-40* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *13-22,24-28 and 32-40* is/are allowed.

6)☒ Claim(s) *1-11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *7/18/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Claims 12, 23, 29, 30, 31 have been canceled.

2. Claims 1 – 11, 13 – 22, 24 – 28, 32 – 40 are pending.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1 – 11, are rejected under 35 U.S.C. 102(b) as being anticipated by Jeffrey et al. (5544168).

Regarding claim 1, Jeffrey et al. disclose a circulating switch (Fig. 8, Fig. 10b, Fig. 14) comprising: a plurality of switch modules ("elements 1 …16, central switches", and " one stage of Rotators and 16 single central switches" is interpreted as a plurality of switch modules; Fig. 10b, col. 12, lines 33 – 45, 50 – 51); and one, and only one, temporal cyclical rotator having a plurality of inlets and a plurality of outlets (Fig. 14, "16 inputs and 16 outputs" is interpreted as having a plurality of inlets and a plurality of outlets; col. 18, lines 65 – 67, col. 19, lines 1 – 20), where said plurality of inlets is communicatively connected to said plurality of switch modules and plurality of outlets is communicatively connected to said plurality of switch modules (Fig. 10b, the inputs of rotator 1 are connecting

to the outputs central switches 1…16, and the outputs of the rotator 1 are connecting to the inputs of central switches 1…16) and where said temporal cyclical rotator is operable to cyclically connect each switch module of said plurality of switch modules to each other switch module of said plurality of switch modules by cyclically connecting individual inlets among said plurality of inlets to individual outlets among said plurality of outlets (col. 18, lines 65 – 67, col. 9, line 1, col. 2, lines 43 – 53; "the inputs of rotator 1 are connecting to the outputs central switches 1…16, and the outputs of the rotator 1 are connecting to the inputs of central switches 1…16"; Fig. 10b, col. 12, lines 33 – 52).

Regarding claim 2, Jeffrey et al. disclose the circulating switch claimed wherein said each switch module of said plurality of switch modules is a common memory switch module ("central control memory manager"; Fig. 16, col. 19, lines 40 – 55).

Regarding claim 3, Jeffrey et al. disclose the circulating switch claimed wherein said single temporal cyclical rotator is an electronic rotator ("ASIC" is interpreted as single temporal cyclical rotator is an electronic rotator; col. 18, lines 62 – 67, col. 19, lines 1 – 21).

Regarding claim 4, Jeffrey et al. disclose the circulating switch claimed wherein said single temporal cyclical rotator is a photonic rotator ("bi-directional photonic rotator" in interpreted as single temporal cyclical rotator is a photonic rotator; col. 26, lines 3 – 8).

Regarding claim 5, Jeffrey et al. disclose the circulating switch claimed wherein: said temporal cyclic rotator connects said each switch module of said

plurality of switch modules to said each other switch module during a rotation cycle comprising a plurality of rotation phases (col. 10, lines 3 – 8, col. 20, lines 15 – 20); and during a given rotation phase among said plurality of rotation phases, wherein said each switch module is connected through said temporal cyclic rotator to a respective switch module determined according to a predefined rotation configuration (col. 20, lines 22 – 41), said each switch module is operable to: receive at most one data segment from a subtending data source; transmit at most one data segment to a subtending data source; and transmit at most two data segment to said respective switch module (col. 20, lines 52 – 67, col. 21, lines 1 – 12, Fig. 17).

Regarding claim 6, Jeffrey et al. disclose the circulating switch claimed wherein said each switch module is further operable to transmit a given data segment to said respective switch module, where said given data segment is destined to switch module distinct from said respective switch module (col. 20, lines 52 – 65).

Regarding claim 7, Jeffrey et al. disclose the circulating switch claimed wherein said each switch module is further operable to: receive indicative data segments from another switch module among said plurality of switch modules, each of said indicative data segments including an indication of a sequential order; and reorder said indicative data segments according to said indication (col. 20, lines 56 – 67, col. 21, lines 1 – 8).

Regarding claim 8, Jeffrey et al. disclose the circulating switch claimed further comprising: a plurality of module controllers, each module controller of

said plurality of module controllers associated with a switch module of said plurality of switch modules; a master controller communicatively connected to said each module controller of said plurality of module controllers, where said master controller is operable to indicate to said plurality of module controllers a schedule according to which each switch module of said plurality of switch modules cyclically connects to each other switch module of said plurality of switch modules ("control element in input port" is interpreted as one of a plurality of module controller; and "control element in central elements" is interpreted as a master controller; Fig. 2, Fig. 8, col. 9, lines 57 - 67, col. 10, lines 1 - 6).

Regarding claim 9, Jeffrey et al. disclose the circulating switch claimed wherein said master controller is directly connected to said each module controller of said plurality of module controllers (Fig. 2, Fig. 8, col. 9, lines 57 - 67, col. 10, lines 1 – 6).

Regarding claim 10, Jeffrey et al. disclose the circulating switch claimed wherein said master controller subtends to one of said switch modules and receives control signals through said one of said switch modules (col. 13, lines 10 – 16, Fig. 12).

Regarding claim 11, Jeffrey et al. disclose the circulating switch claimed wherein said master controller connects to said temporal cyclic rotator and receives control signals through said temporal cyclic rotator (col. 13, lines 10 – 25).

Allowable Subject Matter

5. Claims 24 – 28, 13 – 22; 32 – 40 are allowed.

6. The following is an examiner's statement of reasons for allowance:

The prior art made of record, in single or in combination, fails to disclose the limitations of:

"each common memory switch of said plurality of switch modules has a data memory logically divided into: a first section for storing a first set of data segments, where said first set of data segments are received from data sources; a second section for storing a second set of data segments, where said second set of data segments are destined for particular switch modules among said plurality of switch modules, said second section logically divided into a number of sub-sections, each sub-section of said number of sub-sections corresponding to one temporal cyclical rotator among said plurality of said temporal cyclical rotators; and a third section for storing data segments directly destined for data sinks" as claimed in claim 24;

"wherein, at a given switch module of said plurality of switch modules, said receiving further comprises: writing a first data segment, received from a data source subtending to said given switch module, in a shipping section of a memory device associated with said given switch module; writing a second data segment, received from one of said switch modules, in a transit section in said memory device; and writing a third data segment, received from another of said switch modules, in a receiving section in said memory device" as claimed in claim 32.

"scheduling an exchange of said data segments through said temporal cyclical rotators while excluding from consideration a selected one of said temporal cyclical rotators; extending a rotation configuration of said selected one of said temporal cyclical rotators of said array" as disclosed in claim 39.

7. Additionally, all of further limitations in claims 25 – 28, 13 – 22, 33 – 38, 40 are allowable since the claims are dependent upon the claims 24, and 32, 39 respectively.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

9. Applicant's arguments filed on 7/18/2008 with respect to claims 1 – 11, 13 – 22, 24 – 28, 32 – 40 have been fully considered but they are not persuasive.

Regarding claim 1, applicant argues applicant's claimed subject matter a circulating switch which comprises a single plane. Examiner respectfully disagrees. According to claim 1 in current form, the claim does not disclose explicitly "a single plane". Examiner contends Reference Jeffrey et al. teach a circulating switch. Examiner interpreted Fig. 14 of reference Jeffrey er al. is a single circulating switch, see Fig. 14, col. 19, lines 20 - 25.

It is reminded that one with ordinary skill in the art is to give claims their broadest reasonable interpretation in light of the supporting disclosure. In re Morris, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027-28 (Fed. Cir. 1997). It also reminded that claims must be interpreted "in view of the specification" without importing limitations from the specification into the claims unnecessarily.

Based on the discussion provided by the applicant, applicants imported unnecessarily limitations.

Applicant argues "(B) Claim 1 recites "one and only one temporal cyclical rotator having a plurality of inlets and a plurality of outlets". This indicates a single temporal cyclical rotator. Thus the circulating switch functions with a single rotator. In a sharp contrast, each plane in the switch of FIG. 8 in Jeffrey has multiple input rotators and multiple output rotators. If the number of rotators in Jeffrey is reduced to one, there would be no path from any input port to any output port thus renderinq the device unusable as switch. Examiner respectfully disagrees.

Examiner contends reference Jeffrey teach "one and only one temporal cyclical rotator having a plurality of inlets and a plurality of outlets. Examiner interpreted the inputs and outputs of Fig. 14 of reference Jeffrey er al. is one and only one temporal cyclical rotator having a plurality of inlets and a plurality of outlets a single circulating switch, see Fig. 14, col. 19, lines 20 - 25.

Applicant also argues (C) Claim 1 recites "where said plurality of inlets is communicatively connected to said plurality of switch modules and said plurality of outlets is communicatively connected to said plurality of switch modules". According to FIG. 8 in Jeffrey, and the corresponding description, each inlet of each input rotator connects to a respective input port and each outlet of each output rotator connects to a respective output port. Thus, none of the inlets of

any input rotator in Jeffrey connects to a central switch and none of the outlets of any output rotator connects to a central switch; the Examiner has equated a central switch in Jeffrey to a switch module in the present application. Examiner respectfully disagrees. Examiner contends reference Jeffrey et el. disclose "where said plurality of inlets is communicatively connected to said plurality of switch modules and said plurality of outlets is communicatively connected to said plurality of switch modules. Examiner interpreted Fig. 10b, the inputs of rotator 1 are connecting to the outputs central switches 1…16, and the outputs of the rotator 1 are connecting to the inputs of central switches 1…16.

Applicant further argues (D) Claim 1 recites "where said temporal cyclical rotator cyclically connects each switch module to each other switch module". There are 16 rotators in each plane in the exemplary switch of FIG. 8 in Jeffrey. NONE of the rotators connects any central switch (switch module) to any other central switch. The structure of FIG. 8 in Jeffrey does not provide ANY PATH - DIRECT OR INDIRECT - FROM ANY CENTRAL SWITCH TO ANY OTHER CENTRAL SWITCH. Examiner respectfully disagrees.

Examiner contends reference Jeffrey et al. disclose where said temporal cyclical rotator cyclically connects each switch module to each other switch module. Examiner interpreted "the inputs of rotator 1 are connecting to the outputs central switches 1…16, and the outputs of the rotator 1 are connecting to the inputs of central switches 1…16"; see Fig. 10b, col. 18, lines 65 – 67, col. 9, line 1, col. 2, lines 43 – 53, col. 12, lines 33 – 52.

Regarding Claim 39, Applicant's arguments, see pages 16 – 19 of 20, filed on 7/16/2008, with respect to claim 39, 40 have been fully considered and are persuasive. The rejection of claims 39 and 40 has been withdrawn.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a) Jeffrey et al. (5459724).

b) Servel et al. (4884264).

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANDREW C. LEE whose telephone number is (571)272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on (571) 272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C Lee/
Examiner, Art Unit 2419
<11/16/2008:1Qy09>

/Edan Orgad/

Supervisory Patent Examiner, Art Unit 2419